

Secondhand Smoke in New Hampshire

New Hampshire Department of Health and Human Services
Office of Community and Public Health
Tobacco Prevention and Control Program



Introduction

Secondhand smoke is defined as smoke escaping from burning tobacco products as well as smoke exhaled by smokers.¹ It has also been known as environmental tobacco smoke, involuntary smoking or passive smoking.¹ In 1993, the U.S. Environmental Protection Agency labeled secondhand smoke a "Group A carcinogen," or a substance known to cause cancer in humans.² Secondhand smoke is composed of more than 4,000 different chemicals.² More than 40 of these are known to cause cancer in humans or animals.²

Secondhand smoke has been linked to a variety of health problems including lung cancer and chronic lung disease.¹ It has been estimated to result in 3,000 lung cancer deaths a year in the U.S. among nonsmokers.²

In children and adolescents, secondhand smoke can damage developing lungs, and increase cases of pneumonia and bronchitis.¹ Children exposed to secondhand smoke are more likely to have reduced lung function and increased cases of ear infection due to the buildup of fluid in the middle ear.^{1,2} Secondhand smoke increases the number of asthma attacks and makes attacks worse.^{1,2} Secondhand smoke may be responsible for as many as 1.6 million office visits for middle ear infections and 300,000 cases of childhood bronchitis and pneumonia in the U.S. per year.¹

Youth Exposure to Secondhand Smoke

Summary

In 2001, the New Hampshire Youth Tobacco Survey (2001 NHYTS) measured exposure to secondhand smoke among middle and high school students by asking them on how many of the past seven days they had been in a room or in a car with someone who was smoking. In 2001, secondhand cigarette smoke was common among 6-12 graders. Sixty-five percent of 6-12 grade students said they had been in a room or car in the past week with someone who was smoking. Older youth and youth with friends or household members who smoke were more likely to have been exposed. Although those who smoked or had tried smoking were more likely to be exposed, more than half of youth who had never smoked had been exposed to secondhand cigarette smoke recently.

Although knowledge about the dangers of secondhand smoke was widespread, it does not appear to have been translated into actions that keep environments free of secondhand smoke.

New Hampshire law prohibits tobacco use in public schools and on school grounds but school tobacco policies are not consistent in addressing tobacco use. In addition, at off-campus, school-sponsored events, tobacco use by faculty is prohibited in only 73% of school policies and by visitors in only 51% of school policies. Use of tobacco by faculty and visitors at school-sponsored events exposes youth to secondhand smoke and models tobacco use as a safe and acceptable adult behavior.

Differences in secondhand smoke exposure among groups of youth with various characteristics may be seen in tables 1-6, below.

Prevalence of youth exposure to secondhand smoke

Table 1. Exposed to secondhand smoke in the last week in a room or a car

Percent	Confidence Interval
64.5	62.1%, 66.8%

Source: 2001 NHYTS

Nearly two thirds of 6-12 grade students have been exposed to secondhand smoke by being in a room or in a car in the previous seven days with someone who was smoking cigarettes.

Grade

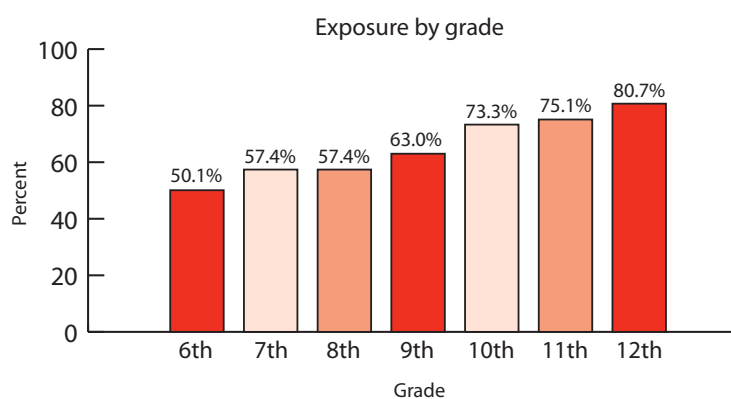


Table 2. Exposed to secondhand smoke in the last week in a room or a car

Exposure by grade	Percent	Confidence Interval
6th	50.1	44.8%, 55.4%
7th	57.4	53.2%, 61.7%
8th	57.4	50.7%, 64.0%
9th	63.0	58.2%, 67.8%
10th	73.3	68.5%, 78.1%
11th	75.1	68.7%, 81.5%
12th	80.7	76.8%, 84.6%

Source: 2001 NHYTS

The prevalence of exposure to secondhand smoke increases with grade level. The prevalence of exposure among high school students is significantly higher than among middle school students.

Sex

Table 3. Exposed to secondhand smoke in the last week in a room or a car

Sex	Percent	Confidence Interval
Male	62.7	60.0%, 65.4%
Female	66.3	63.3%, 69.3%

Source: 2001 NHYTS

The percentages of males and females who were exposed to secondhand smoke are not significantly different.

Friends who smoke

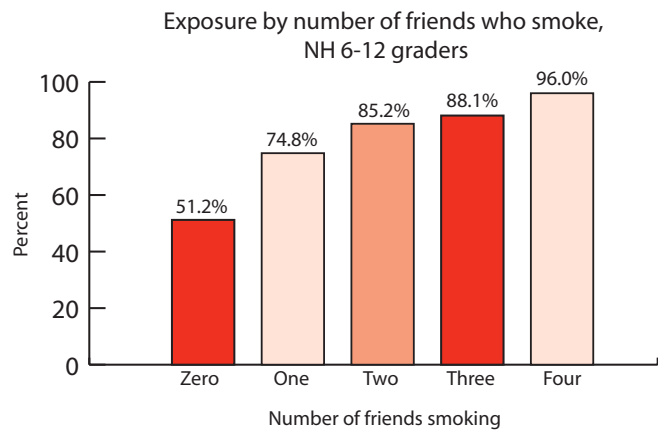


Table 4. Exposed to secondhand smoke in the last week in a room or a car

Number of friends who smoke	Percent	Confidence Interval
Zero	51.2	48.1%, 54.2%
One	74.8	70.2%, 79.4%
Two	85.2	80.9%, 89.5%
Three	88.1	81.5%, 94.7%
Four	96.0	93.2%, 98.8%

Source: 2001 NHYTS

The prevalence of youth exposure to secondhand smoke increases as their number of close friends who smoke increases. About half of 6-12 graders who have no close friends who smoke were exposed to secondhand smoke in the previous week while nearly all 6-12 graders with four close friends who smoke were exposed in the previous week.

Smoking status

Table 5. Exposed to secondhand smoke in the last week in a room or a car

Smoking status	Percent	Confidence Interval	
Frequent smoker	99.4	98.3%,	100%
Current smoker	96.9	95.5%,	98.3%
Ever smoked	83.6	81.6%,	85.7%
Never smoked	51.8	48.6%,	55.0%

Source: 2001 NHYTS

Ever smokers, frequent and current smokers were more likely to have been exposed to secondhand smoke than those who had never smoked. More than half of youth who had never smoked had been exposed to secondhand cigarette smoke recently.

Knowledge of the dangers of secondhand smoke

Table 6. Students who believe that smoke from others' cigarettes is dangerous

	Percent	Confidence Interval	
	93.3	92.0%,	94.6%

Source: 2001 NHYTS

When asked if they thought smoke from other people's cigarettes was dangerous, 93% of students said that they thought it was definitely or probably dangerous.

Table 7. Secondhand smoke exposure by opinion about the danger of secondhand smoke

	Percent	Confidence Interval	
Thinks SHS dangerous	64.7%	62.2%,	67.1%
Thinks SHS not dangerous	62.1%	54.1%,	70.0%

Source: 2001 NHYTS

In 2001, exposure to secondhand smoke among students who thought other people's cigarette smoke was dangerous was not significantly different from exposure among students who did not think it dangerous.

Schools and Secondhand Smoke

Summary

New Hampshire RSA 126-K:7 prohibits the use of tobacco in public school buildings and on public school grounds. The 2001 NHYTS found that 6% of 6-12 grade students smoked cigarettes on school grounds in the previous month. In a survey of New Hampshire school principals in 2002, the 2002 School Health Education Profile (2002 SHEP), nearly all (99%) said their school had a policy prohibiting tobacco use.³ The content of the tobacco policies vary. Some are more comprehensive than others, extending tobacco use restrictions to include all persons both on school grounds and at school-sponsored events.

Variations in school tobacco policies may be seen in tables 8-9 below. Information on student smoking on school grounds may be found in table 10.

School tobacco policy coverage

Table 8. Types of tobacco and groups specifically addressed by school policies

Group specifically addressed by policy	Cigarettes	Spit tobacco	Cigars	Pipes
Students	96%	93%	89%	88%
Faculty	94%	87%	88%	88%
Visitors	94%	84%	88%	88%

Source: 2002 NH SHEP

In 2002, most New Hampshire schools had rules against cigarette smoking by students, faculty and visitors. However, 12% did not have rules against smoking cigars or pipes, 16% did not have rules against the use of spit tobacco by visitors and 13% did not have rules against the use of spit tobacco by faculty.

Table 9. Locations and groups covered by school tobacco policies.

Groups addressed by school policies, 2002	Buildings	Locations:		
		Grounds	Buses	Off-Campus, school-sponsored events
Students	99%	99%	98%	92%
Faculty	97%	97%	96%	73%
Visitors	98%	97%	94%	51%

Source: 2002 NH SHEP

Nearly all New Hampshire school tobacco policies had rules against tobacco use in school buildings, on school grounds and in buses. However, at half of New Hampshire schools, students could be exposed to the tobacco smoke of visitors at off-campus school-sponsored events. And at one quarter of New Hampshire schools, students could be exposed to the tobacco smoke of faculty members at off-campus, school-sponsored events.

Student smoking on school grounds

Table 10. Smoked on school grounds in previous 30 days

	Percent	Confidence Interval	
High school	9.9	8.3%,	11.5%
Middle school	2.2	1.5%,	2.9%

Source: 2001 NHYTS

The 2001 NHYTS found that 6.4% (5.4%, 7.3%) of 6-12 graders smoked on school grounds in the 30 days prior to the 2001 NHYTS.

Secondhand Smoke in Homes

Summary

The 2001 NHYTS asked students about exposure to secondhand smoke including exposure in their homes. It found that students who said someone had smoked inside of their home in the previous 30 days or who lived with someone who smoked were significantly more likely to have been exposed to secondhand smoke than students who lived in homes where no one had smoked.

The 2001 Behavioral Risk Factor Surveillance Survey (2001 NH BRFSS)⁴ asked adults aged 18 and older about rules regarding smoking in their homes. 67% (95% CI: 64.9%, 68.3%) said that smoking was not allowed anywhere in their home. Adults with more income and education and nonsmokers were more likely to live in homes where smoking was not allowed. There were no significant differences among adults by age or sex.

Information about youth exposure to secondhand smoke at home can be found in tables 11-12 below. Information about adults with various characteristics who live in homes with rules that restrict smoking can be found in tables 13-17 below.

Youth with household members who smoke

Table 11. Secondhand smoke exposure by household members who smoke

	Percent	Confidence Interval
Live with a smoker	88.3	86.5%, 90.1%
Do not live with a smoker	47.1	44.1%, 50.1%

Source: 2001 NHYTS

Youth who live in a household with someone who smokes were significantly more likely to have been exposed in the previous week.

Youth and recent smoking inside of the home

Table 12. Secondhand smoke exposure by whether someone has smoked inside the home recently

	Percent	Confidence Interval
Smoking inside home	90.1	87.7%, 92.5%
No smoking inside home	51.1	48.2%, 54.0%

Source: 2001 NHYTS

90% of youth who said that there had been recent smoking inside of their home were exposed to secondhand smoke.

Age of adults living in homes with nonsmoking rules

Table 13. Adults living in homes with rules not allowing smoking

Age	Percent	Confidence Interval
18-24	64.1	57.8%, 70.4%
25-34	70.0	66.1%, 73.9%
35-44	66.2	62.9%, 69.5%
45-54	68.5	65.0%, 72.0%
55-64	65.9	61.4%, 70.4%
65 or older	63.7	59.8%, 67.6%

Source: 2001 NH BRFSS

The percentage of adults living in homes with rules prohibiting smoking does not differ significantly by age group.

Sex of adults living in homes with nonsmoking rules

Table 14. Adults living in homes with rules not allowing smoking

Sex	Percent	Confidence Interval
Male	65.3	62.7%, 67.8%
Female	67.9	65.7%, 70.0%

Source: 2001 NH BRFSS

There are no significant differences between the percentage of men and women that live in smoke-free homes.

Education of adults living in homes with nonsmoking rules

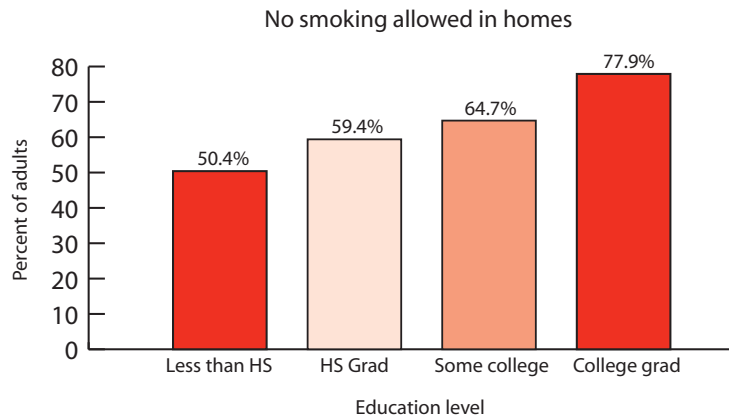


Table 15. Adults living in homes with rules not allowing smoking

Education	Percent	Confidence Intervals
Less than HS	50.4	43.7%, 57.1%
HS grad	59.4	56.2%, 62.6%
Some college	64.7	61.4%, 68.1%
College grad	77.9	75.6%, 80.3%

Source: 2001 NH BRFSS

The percentage of adults living in homes where smoking is not allowed increases with years of education. Adults with a college degree are significantly more likely to live in homes with rules prohibiting smoking than adults with a high school education or less.

Income of adults living in homes with nonsmoking rules

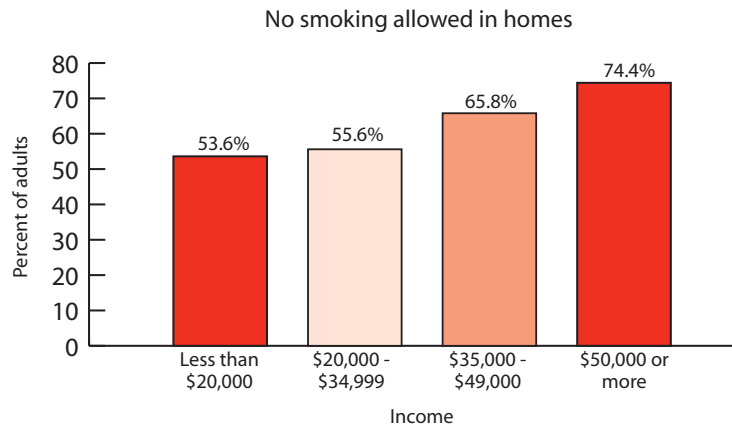


Table 16. Adults living in homes with rules not allowing smoking

Income	Percent	Confidence Interval
Less than \$20,000	53.6	48.1%, 59.0%
\$20,000-34,999	55.6	51.5%, 59.6%
\$35,000-49,999	65.8	61.6%, 70.0%
\$50,000 or more	74.4	72.0%, 76.8%

Source: 2001 NH BRFSS

The percentage of adults living in homes with rules not allowing smoking increases with income. Adults with annual household incomes of \$35,000 or more were significantly more likely to live in homes where smoking was not allowed than those with lower incomes.

Smoking status of adults living in homes with nonsmoking rules

Table 17. Adults living in homes with rules not allowing smoking

Smoking status	Percent	Confidence Interval
Current smoker	33.9	30.3%, 37.5%
Not a current smoker	77.0	75.4%, 78.7%

Source: 2001 NH BRFSS

The percentage of adult nonsmokers who live in homes where smoking is not allowed is significantly higher than that of current adult smokers.

Secondhand Smoke and Workplaces

Summary

Overall, 79% (95% CI: 77.2% - 81.2%)[†] of New Hampshire residents who are employed indoors worked at a site prohibiting smoking in both work areas and public areas in 2001. In general, younger adults, males and adults with less income and education were more likely to work at sites where smoking was allowed.

Information about adults with various characteristics who work in places that have policies prohibiting smoking can be found in tables 18-22 below.

Age

Table 18. Percent working in a smoke free workplace

Age	Percent	Confidence Interval
18-24 years	64.8	56.0%, 73.6%
25-34 years	76.5	72.3%, 80.7%
35-44 years	80.2	76.7%, 83.7%
45-54 years	85.9	82.8%, 89.0%
55-64 years	87.3	83.1%, 91.5%
65 or older	66.5	54.2%, 78.8%

Source: 2001 NH BRFSS

In general, older adults are more likely to work in places where smoking is prohibited. However, the proportion of people 65 and older working in smoke-free places is similar to that of 18-24-year-old people.

Sex

Table 19. Percent working in a smoke-free workplace

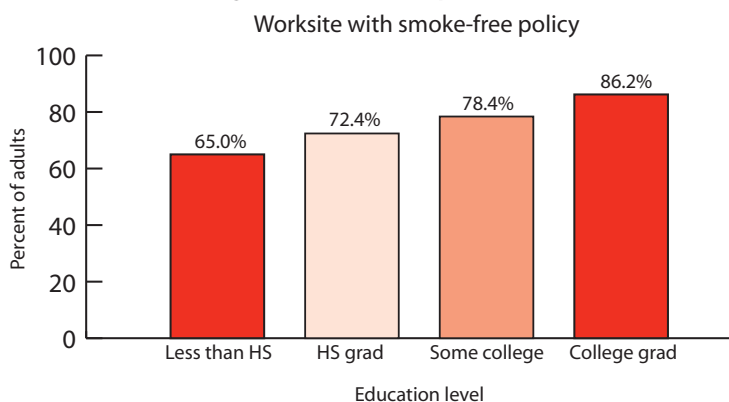
Sex	Percent	Confidence Interval
Male	75.7	72.5%, 78.9%
Female	82.2	79.8%, 84.7%

Source: 2001 NH BRFSS

A higher percentage of women work in smoke-free worksites than men. These percentages are significantly different.

Education

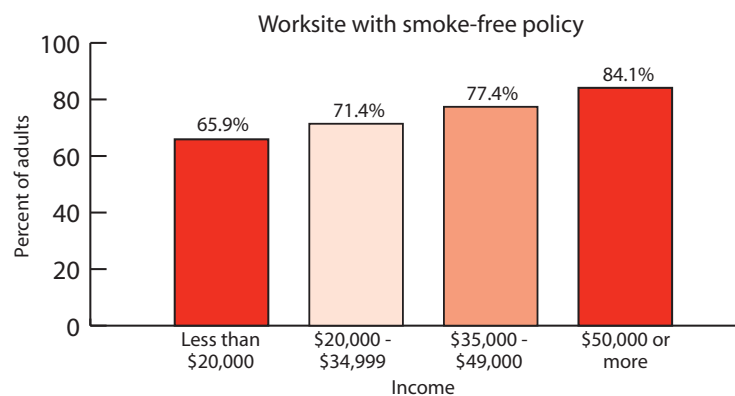
Table 20. Percent working in a smoke-free workplace



Education	Percent	Confidence Interval	
Less than HS	65.0	53.3%,	76.6%
HS grad	72.4	68.2%,	76.6%
Some college	78.4	74.4%,	82.3%
College grad	86.2	83.8%,	88.6%

Source: 2001 NH BRFSS

The proportion of people who work in smoke-free worksites increases with their number of years of education. The proportion of those with a college degree is significantly higher than the other educational categories.

Income**Table 21. Percent working in a smoke-free workplace**

Income	Percent	Confidence Interval	
less than \$20,000	65.9	55.7%	76.1%
\$20,000-34,999	71.4	65.9%	77.0%
\$35,000-49,999	77.4	72.6%	82.2%
\$50,000 or more	84.1	81.7%	86.4%

Source: 2001 NH BRFSS

The proportion of people who work in a smoke-free worksite increases with annual household income. The proportion of those in the highest income level working in a smoke-free site is significantly higher than the proportions in the two lower income levels.

Smoking status**Table 22. Percent working in a smoke-free workplace**

Smoking status	Percent	Confidence Interval	
Current smoker	71.2	66.9%	75.6%
Not a current smoker	81.7	79.5%	83.9%

Source: 2001 NH BRFSS

The percentage of current smokers working in places with smoke-free policies is significantly lower than that of nonsmokers.

Smoke-free Restaurants

Summary

In 2000, 72.3% (69.8%, 74.8%)⁵ of New Hampshire residents said that they requested nonsmoking seating when dining out (2000 NH BRFSS).⁵ 86% (84.3%, 88.1%) said that if restaurants were completely smoke-free they would dine out with the same frequency and 7.8% (6.3%, 9.3%) said that they would dine out more often.⁵

New Hampshire's Indoor Smoking Act (RSA 155:64-77) was enacted to regulate smoking in enclosed workplaces and enclosed places accessible to the public, regardless of whether they are publicly or privately owned, and in enclosed publicly owned buildings and offices. In restaurants, smoking is permitted if smoking areas are "effectively segregated" from nonsmoking areas, and in restaurants with seating for fewer than 50 people.

In 2001 the New Hampshire Restaurant Survey (2001 NHRS) asked a random sample of New Hampshire restaurants about their smoking policies.⁶ It found that 57% of New Hampshire restaurants did not allow smoking by their patrons.

Bars and restaurants with bars had the highest rates of smoking, while fast food restaurants had the lowest rates. Other characteristics associated with allowing smoking were: selling alcohol, selling tobacco, having the smoking policy determined by a manager as opposed to a corporate office, and having a large amount of seating.

Approximately 80% of restaurants in New Hampshire that allowed smoking said that they were somewhat or very unlikely to go smoke free in the next 12 months. In the same survey, restaurant owners and managers were asked whether they had received any complaints or compliments from customers about their smoking policy in the last month. Restaurant owners and managers who reported having one or more customer complaints within the last month were about twice as likely to consider going smoke free than restaurants who hadn't received any complaints. The number of compliments received on the restaurant's smoking policy had no effect on the likelihood of the restaurant going smoke free.

Information about various characteristics of restaurants that allow smoking can be found in tables 24-25 below.

Prevalence of smoke-free restaurants

Table 23. New Hampshire restaurants allowing smoking

	Percent	Confidence Interval	
Do not allow smoking	56.5	51.7%	61.3%
Allow smoking	43.5	38.7%	48.3%

Source: 2001 NH Restaurant Survey

More than half of New Hampshire restaurants did not allow smoking by patrons in 2001.

Characteristics of restaurants that allow smoking

Table 24. Characteristics of restaurants allowing smoking

Characteristics of Restaurants	Percent	Confidence Interval	
Type of Restaurant			
Bar/ Combination restaurant and bar	79.6	68.3%,	90.9%
Family	53.7	46.4%,	61.0%
Fine dining	44.9	31.0%,	58.8%
Other	24.2	9.6%,	38.8%
Fast food	11.7	5.2%,	18.2%
Size			
1–50 seats	22.9	15.3%,	30.5%
51–100 seats	37.0	28.9%,	45.1%
101–150 seats	48.3	35.4%,	61.2%
>150 seats	79.3	70.5%,	88.1%
Age			
Before 1970	41.7	25.6%,	57.8%
1970–1979	44.2	30.7%,	57.7%
1980–1989	52.6	41.4%,	63.8%
1990–1995	43.6	34.3%,	52.9%
1996–2001	48.0	36.7%,	59.3%
Other Characteristics			
Sell tobacco	92.1	83.5%,	100.7%
Contain a bar or lounge	76.8	70.1%,	83.5%
Sell alcohol	57.8	51.7%,	63.9%
Children's menu	44.9	39.0%,	50.8%

Source: 2001 NH Restaurant Survey

Likelihood of going smoke-free

Table 25. Percentage of restaurants willing to go smoke-free

	Number	Percentage	Confidence Interval	
Very likely	12	7.4	3.4%,	11.4%
Somewhat likely	21	13.0	7.8%,	18.2%
Somewhat unlikely	37	22.8	16.3%,	29.3%
Very unlikely	92	56.8	49.2%,	64.4%

Source: 2001 NH Restaurant Survey

References

- ¹ National Cancer Institute. *Health effects of exposure to environmental tobacco smoke: The report of the California Environmental Protection Agency. Smoking and Tobacco Control Monograph no. 10*. Bethesda, MD. U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute, NIH Pub. No. 99-4645, 1999.
- ² 1992. *Respiratory health effects of passive smoking: lung cancer and other disorders* USEPA EPA/600/6-90/006F. 01 Dec 1992. U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Washington, DC, 525. Available at: <http://cfpub1.epa.gov/ncea/cfm/recordisplay.cfm?deid=2835>. Accessed 5/31/2003.
- ³ 2002 School Health Education Profile, Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Atlanta, GA. NH SHEP data provided by the NH Department of Education.
- ⁴ Behavioral Risk Factor Surveillance System, 2001. Survey data, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. NH BRFSS Data provided by the NH Department of Health and Human Services, Bureau of Health Statistics and Data Management.
- ⁵ Behavioral Risk Factor Surveillance System, 2000. Survey data, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. NH BRFSS Data provided by the NH Department of Health and Human Services, Bureau of Health Statistics and Data Management.
- ⁶ Williams A, Peterson E, Knight S, Hiller M, Pelletier A, Survey of Restaurants Regarding Smoking Policies, *J Public Health Mgt and Practice*, In Press.